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**Proposed Claim Amendments:**

1-22 (Cancelled).

23. (Previously Amended): An isolated polypeptide comprising the amino acid sequence of SEQ ID NO. 1 or SEQ ID NO. 14.

24. (Cancelled).

25. (Previously Amended): An isolated nucleic acid molecule comprising a nucleotide sequence encoding the isolated polypeptide of claim 23.

26. (Previously Amended): The isolated nucleic acid sequence of claim 25 comprising the nucleotide sequence of SEQ ID NO. 2 or SEQ ID NO. 13.

27-28. (Cancelled).

29. (Previously Amended): A cDNA clone, comprising an isolated nucleotide sequence according to claim 25.

30. (Withdrawn): A synthetic or non-synthetic nucleotide probe, characterized in that it hybridizes with a nucleic acid according to claim 25, or with its complementary sequence or its corresponding RNA, said probe being unable to hybridize with the genes or the messenger RNA coding for $\beta$-adrenergic receptors.

31. (Withdrawn): A probe according to claim 30, selected from the group consisting of SEQ ID No. 3, SEQ ID No. 4 and SEQ ID No. 7 to SEQ ID No. 12.

32. (Withdrawn Previously Amended): A primer for amplifying the nucleotide sequence according to claim 25, selected from the group consisting of SEQ ID No. 7 to SEQ ID No. 12.

33. (Previously Amended): A recombinant plasmid for cloning and/or expression, comprising the nucleotide sequence according to claim 25, inserted in a cloning site which is non-essential for replication.

34. (Previously Presented): The recombinant plasmid according to claim 33, further comprising an origin of replication for replication in a host cell, at least one gene whose expression permits selection of said host cell transformed with said plasmid, and a regulatory sequence, including a promoter permitting expression of said nucleic acid sequence in said host cell.

35. (Previously Presented): The recombinant plasmid according to claim 33, comprising plasmid pcDNA3 into which is inserted, in a multisite linker, SEQ ID No. 2, wherein said recombinant plasmid is deposited as CNCM No. I-1795.

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36. (Previously Presented): A host cell transformed by a recombinant plasmid according to claim 33, comprising the elements of regulation necessary for the expression of said nucleotide sequence in said host cell.

37. (Previously Presented): The host cell according to claim 36, characterized in that it is a mammalian cell line.

38. (Withdrawn Previously Amended): An antibody directed specifically against the isolated polypeptide of claim 23, which antibody fails to recognize either known $\alpha$ or $\beta$-adrenergic, or serotonine, or dopamine receptors.

39. (Currently Amended): A method for assaying a substance for agonist or antagonist activity towards said isolated polypeptide of claim 23, which method comprises: comprising a sphingosine pp.

(a) placing the substance in contact with tissue membrane proteins or a transformed host cell expressing said isolated polypeptide under conditions which permit binding between said polypeptide [~~binding sites~~] and an agonist or an antagonist thereto and

(b) identifying agonist or antagonist activity by measuring inhibition of chemotaxis;

wherein an increase in said inhibition of chemotaxis indicates that said substance has an agonist activity and a decrease in said inhibition of chemotaxis indicates that said substance has an antagonist activity.

40. (Previously Amended): A process for studying the binding affinity of a compound for said isolated polypeptide of claim 23, which process comprises:

(a) transforming a host cell by an expression vector comprising a nucleotide sequence coding for said isolated polypeptide,

(b) culturing said transformed host cell under conditions which permit the expression of said isolated polypeptide encoded by said nucleotide sequence and the transfer of the expressed isolated polypeptide to the membrane of the said transformed host cell so that transmembrane sequences of said isolated polypeptide are embedded in the cell membranes of the transformed host cell;

(c) placing said transformed host cell in contact with said compound and

(d) measuring the quantity of said compound bound to said receptor polypeptide.

41. (Currently Amended): A process for studying the binding affinity of a compound for the isolated polypeptide of claim 23, which process comprises:

[~~(a) extracting membrane proteins corresponding to said isolated polypeptide from appropriate tissue or cells,~~]

~~(b)~~ (a) placing [~~said~~] membrane proteins of an appropriate tissue or cells expressing said isolated polypeptide in contact with said compound; and

~~(c)~~ (b) measuring the quantity of said compound bound to said isolated polypeptide.

42. (Previously Amended): Method of labeling a receptor polypeptide of claim 23, which method comprises:

(a) extracting membrane proteins from a tissue containing said isolated polypeptide,

(b) labeling said membrane proteins with [$^{125}$I]-ICYP-diazirine or another appropriate marker under blockade of $\alpha$, $\beta$1, $\beta$ 2, $\beta$ 3-AR and serotonine receptors,

(c) separating said labeled proteins by preparative SDS-PAGE electrophoresis and

(d) extracting the radioactive band.

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43. (Withdrawn): A probe according to claim 31, further comprising a label.

44. (Withdrawn): A probe according to claim 43, wherein the label is a radioactive isotope, a detectable enzyme or a fluorochrome.

45. (Original): A process according to claim 41, wherein the appropriate tissue or cells comprise muscle tissue or myocytes.

46. (Original): A method according to claim 42, wherein the tissue containing said receptor polypeptide comprises rat colon tissue or human skeletal muscle tissue.

47-49. (Cancelled)